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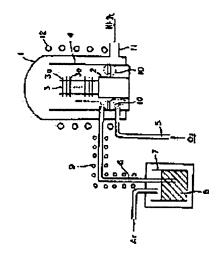
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## (54) MANUFACTURE OF SEMICONDUCTOR ELEMENT AND THERMAL CVD DEVICE (57) Abstract:

PURPOSE: To enable a high-quality Ta2O5 film to be formed by reducing an amount of C within a CVD-Ta2O5 film by using an O3 gas as a species for oxidizing of Ta (OC2H5)5.

CONSTITUTION: A wafer 3 is placed on a boat 3a and it is placed on a temperature-preserving cylinder 2, an outer tube 1 and an inner tube 4 are heated by a heater 12, and an intake tube 6 is heated by a heater 9. O3 gas is taken into the inner tube 4 within a furnace through a intake tube 5 and is filled into a container 7. Ta(OC2H5)5 8 is introduced into the inner tube 4 through the intake tube 6 with Ar as a carrier gas. The Ta(OC2H5)5/O3 mixed gas which is introduced into the inner tube 4 is reacted with O3 gas as an oxidation activation seed,



thus forming Ta2O5 film on the wafer 3. Thus, since O3 which is more active than O2 is utilized as an active species for oxidizing Ta(OC2H5)5, the amount of C contained within CVD-Ta2O5 film to be formed can be reduced and leak current can be restricted, thus enabling electrical characteristics to be improved.

## LEGAL STATUS

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